



**UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

09/382,433 08/25/99 STARK

J 119.12-0010

EXAMINER

QM22/0228

WESTMAN CHAMPLIN & KELLY PA
900 SECOOND AVENUE SOUTH SUITE 1600
MINNEAPOLIS MN 55402-3319

POTHIER, D

ART UNIT

PAPER NUMBER

3764

DATE MAILED:

02/28/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/382,433

Applicant(s)

STARK ET AL.

Examiner

Denise M. Pothier

Art Unit

3764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 24-31 and 50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 24-31 and 50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2-5.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Claims 1-23 and 32-49 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Groups I, II, and IV, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 7.

Specification

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: an orthopedic device with a display that implements the method of claim 24. Does support for this come from column 59, lines 12-13?

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claim 50 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The recitation, "an orthopedic device comprising a display and a support portion that fits around a patient joint" is indefinite. Is the orthopedic device in

Art Unit: 3764

claim 50 the same as that in claim 24 ("an orthosis")? In addition, is the display recited in claim 50 a different display from the one recited in claim 24?

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 24-31 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pitkanen (4,556,216) discloses in Figures 3-10, in column 1, lines 9-13 and 62-68, in column 2, lines 1-2, in column 4, lines 23-68, in column 5, lines 1-10 and 59-68 and in column 6, lines 1-55 a method of performing coordination exercises for neuromotor training comprising flexing a first joint such that a cross hairs move on the screen (Figs. 5A-C; col. 6, l. 16-20) to reach a target position (cursor or dot and see col. 4, lines 47-68 and 6, l. 15-51) on a display within a selected, prescribed time, the motion of the cross hairs being correlated with the motion and strain of the joint by way of a sensor (col. 6, l. 29-46) on an orthosis placed on the joint. Pitkanen discloses cross hair, rather than a cursor, that reaches a target position (a cursor). The reversal of components in a prior art reference, where there is no disclosed significance to such reversal, is a design consideration within the skill of the art. In re Gazda, 219 F.2d 449, 104 USPQ 400 (CCPA 1955); In re Japikse, 181 F.2d 1019, 86 USPQ 70 (CCPA 11950). Thus, one

Art Unit: 3764

skilled in the art would have known as a matter of design consideration to reverse the cross-hairs for the targeted cursor and reverse the targeted cursor for the cross-hairs since there is not disclosed significance to such a reversal. In addition, the reversal would not destroy the Pitkanen device.

As for claim 25, Figures 3 and 6-10 disclose the orthosis with two support portions being on opposite sides of a joint, a flexible connection (such as gears and hinge shown in Figs. 3-4, 7 and 9-10) and position sensor (see element 70; col. 4, l. 27-30) operably connected to the flexible connection such that the sensor detects the orientation of the first support relative to the second support.

As for claims 26 and 30, Pitkanen discloses in Figure 4 that the sensor is operably connected to a controller that includes digital microcomputer or microprocessor (64), the microprocessor providing the target for flexing (col. 6, l. 14-16). In addition, Pitkanen suggest making the device portable in column 7, lines 26-33 in order to store the device while not in use. Making the controller portable would assist in storage. The examiner also takes official notice that making exercise equipment, including control units, portable for storage is well known in the art. Thus, one skilled in the art would have known to make the controller portable for storage purposes.

As for claims 27-28, Pitkanen discloses in column 4, lines 23-55 that the cross-hair motion is correlated with the strain and position of the joint by way of sensors. In addition, Pitkanen discloses in Figures 5A-C that the cursor moves in two dimensions. It would have been obvious to one of ordinary skill in the art to make one dimension correspond to the force and the other to correspond to the position in order to design

Art Unit: 3764

and to program a simpler microprocessor. Also, see the above teaching regarding reversability of a cursor for the cross-hairs.

As for claim 29, Pitkanen discloses in Figure 3, in column 6, lines 12-55, and in column 7, lines 40-54 that flexing both sides (see 32,34 in Figs. 3 and 6-10) of the user is performed during exercises all of which contribute to the load and the position. Thus, flexing of a second joint simultaneously varies the display due to motion of a second joint and the variations in the display due to motion of the second joint are determined by the output of the position and strain sensors

As for claim 31, see column 4, lines 23-46.

As for claim 50 as best understood, the orthosis in Figures 3-10 includes the display (80) and support portion and implements the method of claim 24 as discussed above.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hocherman (5,772,611), Gracovetsky (5,178,160), Belsole (5,868,647) and Macri (6,183,259) disclose the state of the art of devices that interact between a user's motion/strain and a display.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Denise M. Pothier whose telephone number is 703.308.0993. The examiner can normally be reached on Monday-Thursday and alternate Fridays. The fax phone numbers for the organization where this application or


Application/Control Number: 09/382,433

Page 6

Art Unit: 3764

proceeding is assigned are 703.308.3580 for regular communications and
703.308.3580 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or
proceeding should be directed to Everett Williams whose telephone number is
703.305.1708.



Denise Pothier
February 26, 2001